

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c04] (Amended) The system of claim 1, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials and oligomeric materials.

[c11] (Amended) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, the curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c12] (Amended) The system of claim 1, wherein the curing system further comprises a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask.

5 [c13] (Amended) The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a spatial mask having at least one dimension said mask being positioned between a curing source and the at least one coating layer, wherein the radiation transmission characteristic varies along at least one dimension of the spatial mask.

[c14] (Amended) The system of claim 13, wherein the radiation transmission characteristic varies as a function of time and wavelength.

[c15] (Amended) The system of claim 13, wherein the radiation transmission characteristic varies exponentially, linearly, sinusoidally, or stepwise.

10 [c16] (Amended) The system of claim 1, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity.

[c17] (Amended) A system for creating a combinatorial coating library, comprising:

15 a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

20 a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity, the curing system comprising a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial
25 mask;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

3
[c18] (Amended) The system of claim 17, wherein the coating system further
5 comprises a coating system selected from the group consisting of a spray and vapor coating system, spin coating system, dip coating system, flow coating system, and draw-down coating system.

10
[c19] (Amended) The system of claim 1, wherein said coating system further comprises a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells.

15
[c34] (Amended) The system of claim 1, wherein the at least one coating layer has a variable thickness.

20
[c36] (Amended) A method for using a combinatorial coating library, comprising the steps of:

selectively applying at least one of a plurality of materials suitable for forming at
least one coating layer to a surface of one or more substrates; and

selectively applying at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer;

25 wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c37] (Amended) The method of claim 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying substantially the same predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c38] (Amended) The method of claim 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying a substantially different predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c39] (Amended) The method of claim 36, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials and oligomeric materials.

[c40] (Amended) The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, further comprises using a curing system comprising a heating source in thermal communication with a heating element operably positionable adjacent to the one or more substrates.

[c41] (Amended) The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the elongate heating element has a variable heat distribution characteristic along a dimension of the heating element.

[c42] (Amended) The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a spatial mask having an elongate surface, said

spatial mask having a radiation transmission characteristic which varies along a dimension of the elongate surface of said spatial mask.

[c44] (Amended) A method for using a combinatorial coating library, comprising the steps of:

5 providing a plurality of materials for forming a coating layer on a surface of a substrate;

10 providing a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells; and

providing at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

15 wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

20 [c46] (Amended) The method of claim 44, further comprising sequentially depositing the at least one material and applying the at least one curing environment to form a multi-layer coating, wherein the sequence of depositing and applying comprises a coating and curing sequence selected from a plurality of coating and curing sequences.

[c48] (Amended) A method for using a combinatorial coating library, comprising the steps of:

25 selectively depositing at least one coating layer formed from at least one of a plurality of materials onto a surface of a substrate, the surface of the substrate comprising a plurality of regions; and

selectively applying at least one of a plurality of curing environments simultaneously to each of the plurality of regions;

wherein the selective combination of the at least one of the plurality of materials and the at least one of the plurality of curing environments associated with each of the plurality of regions forms the combinatorial coating library.

Please cancel Claim 32.

Attached hereto are a marked-up version of the Claims and a clean version of the
10 Claims, incorporating the amendments made herein. The attached pages are captioned
"Claims With Markings to Show Amendments Made" and "Clean Version of All
Claims," respectively.

REMARKS:

15

This Amendment and Response to Non-Final Office Action is being submitted in response to the non-final Office Action dated October 4, 2002. Claims 1-51 are pending in the Application. Claims 4 and 34 stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject
20 matter which Applicant regards as the invention. Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48 stand rejected under 35 USC 102(b) as being anticipated by Schultz et al. (U.S. Patent No. 6,004,617). Claims 19, 20, 26, and 44 stand rejected under 35 USC 103(a) as being unpatentable over Schultz et al. as applied to Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48, and further in view of the admitted state of the art. Claims 12-
25 15 and 17 stand rejected under 35 USC 103(a) as being unpatentable over Schultz et al. as applied to Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48, and further in view of Courtney et al. (U.S. Patent No. 4,390,615). Claims 23 and 24 stand rejected under 35 USC 103(a) as being unpatentable over Schultz et al. as applied to Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48, and further in view of Poullos et al. (U.S. Patent No.
30 5,200,230). Claims 18, 32, 36, 44, and 48 stand objected to because of various